UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB2001-0285-FEC

March 4, 2002

Stanley Speaks
Northwest Regional Director
Bureau of Indian Affairs
911 NE 11th Avenue
Portland, Oregon 97232-4169

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Act Essential Fish Habitat Consultation, Sam Creek Logging Unit Timber Sale, Siletz River Basin, Confederated Tribes of Siletz Indians' Lands within Lincoln County, Oregon

Dear Mr. Speaks:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA). The subject of this consultation is the Sam Creek Logging Unit Timber Sale proposed by the Confederated Tribes of Siletz Indians in cooperation with the Bureau of Indian Affairs, U.S. Department of Interior. The NMFS concludes in this opinion that the proposed action is not likely to jeopardize the continued existence of listed Oregon Coast coho salmon (*Oncorhynchus kisutch*), or result in the destruction or adverse modification of designated critical habitat. As required by section 7 of the ESA, NMFS has included reasonable and prudent measures with non-discretionary terms and conditions that NMFS believes are necessary and appropriate to minimize the potential for incidental take of listed salmonids associated with the proposed action.

The enclosed Opinion also serves as consultation for chinook salmon (*O. tshawytscha*) and coho salmon pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and its implementing regulations (50 CFR Part 600).

NMFS suspended this consultation on September 12, 2001 after U. S. District Court Judge Michael Hogan issued an order setting aside the listing of OC coho as threatened under the Endangered Species Act. On December 14, 2001, the Ninth U. S. Circuit Court of Appeals stayed Judge Hogan's order pending resolution of an appeal, thus reinstating OC coho as a threatened species. Although NMFS promptly resumed this consultation, the temporary suspension due to changes in the legal status of OC coho added significantly to the time necessary for its completion. We apologize for any inconvenience caused by this delay.

Please direct any questions regarding this consultation to Rob Markle of my staff in the Oregon Habitat Branch at 503.230.5419.

Sincerely,

D. Robert Lohn
Regional Administrator

cc: Mari Kramer (Confederated Tribes of Siletz Indians)

Endangered Species Act - Section 7 Consultation
&
Magnuson-Stevens Act
Essential Fish Habitat Consultation

BIOLOGICAL OPINION

Sam Creek Logging Unit Timber Sale,
Siletz River Basin, Confederated Tribes of Siletz Indians' Lands within Lincoln County, Oregon

Agency: Bureau of Indian Affairs, U.S. Department of the Interior

Consultation Conducted by: National Marine Fisheries Service,
Northwest Region

Date Issued: March 4, 2002

Michael Crouse

D. Robert Lohn
Regional Administrator

Refer to: OSB2001-0285-FEC

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1. ENDANGERED SPECIES ACT

1.1 Background

On November 6, 2001, the National Marine Fisheries Service (NMFS) received a letter from the Bureau of Indian Affairs (BIA) requesting informal consultation pursuant to the Endangered Species Act (ESA) for the Confederated Tribes of Siletz Indians' (CTSI) proposed Sam Creek Logging Unit Timber Sale on lands within the Siletz River Basin, Lincoln County, Oregon. A biological assessment (BA) accompanied the consultation request. On November 16, 2001, the NMFS requested that the CTSI provide additional information to clarify the effects of the proposed action. The CTSI provided the requested information on November 26, 2001. NMFS considered the information sufficient to initiate consultation and evaluate the effects of the proposed action. However, NMFS does not concur with the action agency's determination of effect and prepared this biological opinion (Opinion) under formal consultation in response to BIA's request for informal consultation.

This Opinion considers the potential effects of the proposed action on Oregon Coast (OC) coho salmon (*Oncorhynchus kisutch*), which occur in the proposed project area. OC coho salmon were listed as threatened under the ESA on August 10, 1998 (63 FR 42587). Critical habitat was designated on February 16, 2000 (65 FR 7764) and protective regulations were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42423). While Indian lands were excluded from the critical habitat designation (65 FR 7764), the effects on critical habitat outside of Indian lands resulting from actions on Indian lands may be evaluated. This consultation is conducted pursuant to section 7(a)(2) of the ESA and its implementing regulations, 50 CFR 402.

1.2 Proposed Action

The BIA proposes to authorize the timber harvest at three sites on CTSI lands in the Sam Creek sub-watershed,[1] Siletz River Basin, Oregon. The purpose of the harvest is to manage CTSI timber resources in accordance with their 1999-2010 Forest Resource Management Plan (Forest Plan) and provide revenue to fund Tribal government. The Forest Plan has not been the subject of an ESA consultation.

1.2.1 Sam Creek #2 Cutting Unit

CTSI proposes to clearcut 102 acres of forest via sale to an outside purchaser. Within the proposed harvest area, approximately 35 acres of hardwood forest would be converted to conifers. Approximately 1.08 miles of new gravel road would be constructed during July to September (Table 1). In addition, 2.2 miles of road will be improved by grading, ditch cleaning, brush clearing, and surfacing with crushed aggregate. Timber harvest (~2.22 million board feet) would occur between September and March using a cable logging system. Slopes within the

[1] In this context, Sam Creek sub-watershed is synonymous with the 6th field Hydrologic Unit Code (HUC) 1710020407 02 designated by the Coastal Landscape Analysis and Modeling Study (CLAMS) available at http://www.fsl.orst.edu/clams.

harvest unit are moderate to moderately steep. A minimum of two green trees and/or hard snags and two down logs per acre would remain following harvest.

The haul route from the harvest unit will require hauling over approximately 4.7 miles of gravel road, half of which parallels Sam Creek. The gravel surfaced haul route has three stream crossings: Sam Creek at river-mile 2.86, Long Prairie Creek at river-mile 0.22, and Long Tom Creek at river-mile 0.02. Approximately eight to 10 log trucks per day would use this road system for approximately 40 to 60 days.

Within the unit are two unnamed tributaries to Sam Creek. One tributary branches within the unit to form two separate channels. All streams within the harvest unit are non-fish bearing, intermittent, headwater streams. CTSI proposes to implement a 20-foot no-cut buffer on each side of these streams. The nearest coho salmon habitat is approximately 630 feet and 1,570 feet downstream of harvest units, respectively.

Table 1. Operating seasons for the proposed Sam Creek Logging Unit Timber Sales.

Cutting Unit	Road Construction	Felling	Yarding	Hauling
Sam Creek #2	Jul 10 - Sep 30	Sep 16 - Mar 30	Sep 16 - Mar 30	Sep 16 - Mar 30
Sam Creek #3	Jul 10 - Sep 30	Sep 16 - Mar 30	Sep 16 - Mar 30	Sep 16 - Mar 30
Twin Bridges	Jun - Oct	June - October	June - October	June - October

1.2.2 Sam Creek #3 Cutting Unit

CTSI proposes to clearcut 50 acres of conifer forest via sale to an outside purchaser. Within the proposed harvest area, approximately 12 acres of hardwood forest would be converted to conifers. Approximately 0.44 miles of new gravel road would be constructed during July to September (Table 1). In addition, 500 feet of road will be improved by grading, ditch cleaning, culvert maintenance, brush clearing, and surfacing with crushed aggregate. Timber harvest (~1.56 million board feet) would occur between September and March using a cable logging system. Slopes within the harvest unit are moderate to moderately steep. A minimum of two green trees and/or hard snags and two down logs per acre would remain following harvest.

The haul route from the harvest unit will require hauling over approximately 4.6 miles of gravel road, much of which (approximately 3.6 miles) is shared with the Sam Creek #2 Cutting Unit haul route that parallels Sam Creek and has three stream crossings: Sam Creek at river-mile 2.86, Long Prairie Creek at river-mile 0.22, and Long Tom Creek at river-mile 0.02. Approximately eight to 10 log trucks per day would use this road system for approximately 30 to 40 days.

Bordering the eastern boundary of the proposed harvest unit is one unnamed tributary to Sam Creek. This small, fish-bearing stream originates in the northern portion of the parcel. The BA

indicates coho salmon spawn and rear within the tributary. CTSI proposes to leave a 100-foot wide, no-cut buffer along the stream (Telephone conversation with M. Kennedy, 23 January 2002). The west bank slope proposed for harvest is 50 to 60%. The slope increase is 50 to 150 feet from the flowing channel.

1.2.3 Twin Bridges Cutting Unit

CTSI proposes to clearcut 19 acres of mature hardwoods via sale to an outside purchaser. Approximately 300 feet of temporary native surface road would be constructed during June to September (Table 1). Timber harvest (~0.10 million board feet) would also occur between June to September using a cable logging system. Slopes within the harvest unit are moderate to moderately steep.

The haul route from the harvest unit will require hauling over approximately 0.06 miles of natural surface road and 1.5 miles of gravel road. All stream crossings are paved. Approximately two to four log trucks per day would use this road system for approximately 10 to 14 days.

Within the unit is one unnamed tributary to Sam Creek. This intermittent stream is non-fish bearing. CTSI proposes to leave a 20-foot no-cut buffer on each side of this stream. Coho salmon habitat is approximately 800 feet downstream of the property boundary. An additional watercourse is outside of the southeast corner of the harvest unit, and therefore will not be buffered (E-mail correspondence from M. Kramer, 26 November 2001).

1.2.4 Common to All Units

Slopes identified by CTSI as unstable will not be harvested (Telephone conversation with M. Kennedy, 23 January 2002). If possible, stream buffers will be extended to protect headwall areas. That portion of any tree inadvertently felled into a designated stream buffer will be left in place (Telephone conversation with M. Kennedy, 23 January 2002).

Landings will be constructed to minimize their size and located more than 200 feet (horizontal distance) from the edge of intermittent or perennial streams (Telephone conversation with M. Kennedy, 23 January 2002).

With the exception of the Twin Bridges unit, winter hauling will occur. This is due to non-discretionary terms and conditions imposed by the U.S. Fish and Wildlife Service's (FWS) biological opinion (FWS reference 1-7-01-F-1037).

CTSI will retain the authority to delay or suspend operations should severe weather conditions warrant. Severe weather may include excessive rainfall (>2 inches in one day), snow, freeze/thaw cycles after prolonged freeze, high winds, or other combinations of events that are judged by CTSI to be detrimental to the road or unit soils.
Following harvest, the unit will be prepared for planting. Site preparation may include the use of prescribed burning. No burning will occur within the protected stream buffer area (Telephone conversation with M. Kennedy, 23 January 2002). All pump intakes associated with water

withdrawals for controlling burns will be screened to prevent fish entrainment (Telephone conversation with M. Kramer, 25 January 2002). No mechanical raking or scarification will occur as part of this action (E-mail communication with M. Kramer, 11 February 2002).

No herbicides will be used in conjunction with the proposed action. During consultation, CTSI withdrew the proposal to use herbicides for site preparation (Telephone conversation with M. Kennedy, 23 January 2002).

Planting will include Douglas-fir (436 seedlings/acre), western red cedar (25 seedlings/acre), and western hemlock (25 seedlings/acre). Laminated rot root pockets identified within the units would be planted with red cedar (75%) and red alder (25%). In addition, stream buffer areas would be interplanted with western red cedar where site conditions are suitable to provide reasonable assurance of planting success.

All roads on CTSI lands, including new roads constructed under this proposed action, will remain and be maintained after the harvest is complete. The purchaser will have responsibility to maintain all roads, including non-CTSI roads, during the timber sale contract period.

CTSI proposes to complete pre-commercial thinning in the unit 10 to 15 years after planting and a commercial thin at age 40. Harvest rotation length would be 80 years. The necessary details to allow an evaluation of effects for these future actions are not available at this time, and therefore are not a subject of this consultation.

CTSI will implement the following best management practices (BMPs) to minimize the adverse effects of the proposed action on fish and their habitat.

Timber Harvest - Planning and Design.

a. Use Natural Resource Conservation Service soil classifications to identify areas not suitable for timber production.
b. Use field investigation (through reconnaissance using topographic maps, aerial photos, ground profile surveys, and walking the ground) to identify unsuitable areas.
c. Design the proposed units to avoid, mitigate, and minimize potential adverse impacts to soil and water.
d. Include the location of stream channels on field maps for transfer to timber sale contract maps.
e. Design the proposed harvest units to avoid, mitigate, and/or minimize potential adverse impacts to fish.

Stream Buffers.

In addition to buffer widths, additional measures are taken and practices followed to prevent damage to riparian/wetland ecosystems and disturbance to streambanks, protect natural flow of streams, and preserve nutrient cycling from woody debris.

a. No chemical loading operations or similar toxic pollutant activities within 200 feet of all water bodies.
b. Directional felling of trees away from stream buffers.
c. Retention of snags within stream buffers (the only exception would be for safety or fire hazard reasons).
d. Logs in the stream buffer that were down before a planned management activity will be retained in their natural state.
e. Log landings are not to be located within 50 feet of stream buffers.
f. Provide protection to headwalls through use of buffers.
g. When yarding through stream buffers is absolutely necessary, corridors will be restricted to the minimum number feasible, and will not exceed 30 feet in width or reduce crown cover on a project stream segment to less than 80% of pre-disturbance conditions, and will require logs to be fully suspended over water and adjacent banks.

Felling.

a. Trees shall be felled quarter to the slope to minimize breakage and ground disturbance.
b. Use of high stumps and/or temporary leave trees to keep logs on the slope to minimize ground disturbance.
c. Use of directional felling, jacking, sniping or beveling of stumps and, if needed, line pulling of trees to avoid drainages and reserve trees and/or to minimize breakage and ground disturbance.

Yarding Methods.

a. Suspend the front end of logs above ground during yarding.
b. Fully suspend logs above the ground during yarding when crossing riparian vegetation and fragile soils.
c. Use motorized carriages and/or slackpulling carriages to reduce the number of corridors through stream buffers.
d. Hand waterbar cable yarding corridors immediately after use on sensitive soils where gouging occurs.
e. Respool and re-rig yarding cables, where necessary, to prevent disturbance and/or damage and to protect stream buffers or other sensitive areas.

Roads.

a. The planning, design, construction, betterment, and maintenance of the road systems in Sam Creek #2, Sam Creek #3, and Twin Bridges Cutting Units follow the BMPs in the 1999-2010 Forest Resource Management Plan (Appendix B, pages B-6 to B-14).

b. The whole focus of the Tribe's road management is to have road systems that meet resource management objectives while minimizing resource damage.

1.3 Biological Information and Critical Habitat

Although there are currently limited data to assess population numbers or trends, all coho salmon stocks comprising the OC coho salmon Evolutionarily Significant Unit (ESU) apparently are depressed relative to past abundance. The status and relevant biological information concerning OC coho salmon are well described in the proposed and final rules from the Federal Register (60 FR 38011, July 25, 1995; and 63 FR 42587, August 10, 1998, respectively), and Weitkamp *et al.* (1995).

Abundance of wild coho salmon spawners in Oregon coastal streams declined during the period from about 1965 to roughly 1975 and has fluctuated at a low level since that time (Nickelson *et al*. 1992). Spawning escapements for this ESU may be at less than 5% of abundance from that in the early 1900s. Contemporary production of coho salmon may be less than 10% of the historic production (Nickelson *et al*. 1992). Average spawner abundance has been relatively constant since the late 1970s, but preharvest abundance has declined. Average recruits-per-spawner may also be declining. The OC coho salmon ESU, although not at immediate danger of extinction, may become endangered in the future if present trends continue (Weitkamp *et al*. 1995, ODFW 1997).

The bulk of production for the OC coho salmon ESU is skewed to its southern portion where the coastal lake systems (e.g. Tenmile, Tahkenitch, and Siltcoos Basins) and the Coos and Coquille Rivers are more productive. Siletz River coho salmon populations have been characterized as depressed (e.g., spawning habitat underseeded, declining trends, or recent escapements below long-term average) and at moderate risk of extinction (Weitkamp *et al.* 1995, ODFW 1997). A recent estimate of average annual wild coho salmon spawner abundance in the Siletz River is 1,007 spawners (n=11) with a range of 336 spawners (1997) to 2,800 spawners (2000) (ODFW 2001). Historic coho salmon runs were estimated to exceed 50,000 adults annually (ODFW 1997). Oregon Department of Fish and Wildlife (ODFW) estimates the current freshwater habitat in the Siletz River Basin is capable of supporting 4,300 to 7,400 coho salmon spawners (ODFW 1997).

Timing of adult coho salmon river entry is largely influenced by river flow. Coho salmon normally wait for fall freshets before entering rivers. In the Siletz River Basin, adults return between late September and mid October with peak river entry in October. OC coho salmon spawn in the Siletz River basin between early November and early January with peak spawning occurring in late November. Sam Creek populations are believed to mirror those found in the Siletz River. Juvenile coho salmon rear for 1 year in freshwater before migrating to the ocean. Spawning and juvenile rearing generally take place in small, low-gradient (generally less than 3%) tributary streams (Floyd 2000). Juvenile OC coho salmon migrate out of the Siletz River

basin as smolts between late March and late May. Escapement, spawning, and outmigration timing estimates were provided by CTSI in the BA submitted for this consultation.

Critical habitat for OC coho salmon includes Oregon coastal river basins (freshwater and estuarine areas) between Cape Blanco and the Columbia River. Freshwater critical habitat includes all waterways, substrates, and adjacent riparian areas below longstanding, natural impassable barriers (i.e., natural waterfalls in existence for at least several hundred years) and several dams that block access to former coho salmon habitat. Riparian areas include areas adjacent to a stream that provide the following functions: shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody material (LWM) or organic matter.

The proposed action would occur in upstream of critical habitat designated for OC coho salmon. Although NMFS believes that habitat on Indian lands is important for the long-term survival and recovery of OC coho salmon, NMFS excluded Indian lands from the final critical habitat designation for this species (65 FR 7764). The decision was made in recognition of the Federal Government's trust responsibilities to Indian tribes, particularly as addressed in the Secretarial Order (Secretaries of Commerce and Interior) issued on June 5, 1997, and out of respect for tribal sovereignty over the management of Indian lands. The Indian lands specifically excluded from critical habitat are those defined in the Secretarial Order, including: (1) Fee lands, either within or outside the reservation boundaries, owned by the tribal government, and (2) fee lands, within the reservation boundaries, owned by individual Indians.

1.4 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). In conducting analyses of habitat-altering actions under section 7 of the ESA, NMFS uses the following steps: (1) Consider the status and biological requirements of the species; (2) evaluate the relevance of the environmental baseline in the action area to the species' current status; (3) determine the effects of the proposed or continuing action on the species; (4) consider cumulative effects; and (5) determine whether the proposed action, in light of the above factors, is likely to appreciably reduce the likelihood of species survival in the wild or adversely modify its critical habitat. In completing this step of the analysis, NMFS determines whether the action under consultation, together with all cumulative effects when added to the environmental baseline, is likely to jeopardize the continued existence of the listed species or result in destruction, adversely modify their critical habitat, or both. If NMFS finds that the action is likely to jeopardize the listed species, NMFS must identify reasonable and prudent alternatives for the action.

1.4.1 Biological Requirements

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed salmon is to define the biological requirements of the species most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list OC coho salmon under the ESA (Weitkamp *et al.* 1995) and also considers new data available that are relevant to the determination.

The relevant biological requirements are those necessary for OC coho salmon to survive and recover to naturally reproducing population levels at which protection under the ESA will become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are habitat characteristics that function to support successful spawning, rearing and migration. The current status of the OC coho salmon, based upon their risk of extinction, has not significantly improved since the species was listed and, in some cases, their status may have worsened.

1.4.2 Environmental Baseline

The environmental baseline is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). Direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to stream degradation. For this consultation, the action area includes the affected upland, riparian zone, bankline, streambed, and aquatic areas from the project site downstream to river mile 0 of Sam Creek. This includes the reaches of Long Tom Creek and Long Prairie Creek downstream of the haul route overcrossings (approximately 88 feet and 1,162 feet, respectively).

The Siletz River Basin encompasses 364 square miles and includes approximately 216 miles of coho salmon habitat (ODFW 1997). The Sam Creek sub-watershed (approximately 15 square miles) originates in the coastal mountains of eastern Lincoln County, 8 miles east of Siletz, Oregon. The creek is approximately 10 miles long. Major tributaries include Long Tom Creek and Long Prairie Creek. Flows are discharged into the Siletz River at approximately river mile 45.1. The dominant geologic type is sedimentary rock (Tyee sandstone). Weathering forms fine-textured soils. Some basalt intrusions are found, which provide gravels to streams.

OC coho salmon spawn and rear in the following streams within the proposed action area: Sam Creek, the Sam Creek tributary bordering the Sam Creek #3 Cutting Unit, Long Prairie Creek, and Long Tom Creek. ODFW random sampling data (1990-2000) provided in the BA indicate

an average 5.6 coho salmon spawners per mile (n=6) in Sam Creek. Four of the six survey years (66.7%) indicated 3.0 or less spawners per mile, and only one of the six survey years (16.7%) exceeded 8.1 spawners per mile.

Historically, the region was covered with forest stands of varying ages. In 1995, the region was dominated by young conifers and broadleaved trees (Garono and Brophy 2001). Land use management is dominated by timber production. Within both the Siletz River Basin and Sam Creek sub-watershed, a majority of land is privately owned. A watershed assessment for the mid-coast region of Oregon indicates active streambank erosion was highest in areas of sedimentary formations and lowest in areas of igneous formations (Garono and Brophy 2001). Rapid bioassessment surveys conducted in 1998-1999 indicated Sam Creek had one of the highest average juvenile coho salmon densities in the Siletz River Basin (Garono and Brophy 2001). Long Tom Creek and Long Prairie Creek watersheds raked 5th and 8th, respectively, for functioning coho salmon winter habitat out of 52 *sixth field watersheds*[2] in the Siletz River Basin (Garono and Brophy 2001). Long Prairie Creek was furthermore ranked 6th for functioning summer coho salmon habitat (out of 52).

Within the Sam Creek #2 and #3 Cutting Units, mature mixed conifer (130 years old), hardwood, and immature conifer (50 to 60 years old) stands are found. The Twin Bridges Cutting Unit is dominated by 50-year old hardwood species.

The lower Siletz River up to Rock Creek (approximately river mile 48.6) is listed on the Oregon Department of Environmental Quality 303(d) list of water quality impaired waters as not meeting the summer rearing temperature criterion (64˚F) (ODEQ 2002). CTSI data was the basis for the listing. In 1997, a site above Cedar Creek found a 7-day average maximum stream temperature of 70.4˚F.

No streams within the Sam Creek sub-watershed appear on the 303(d) list. Temperature monitoring conducted by the CTSI in 2000 (mid July through August) found the ODEQ criterion was not exceeded in Sam Creek (6 sites), Long Tom Creek (1 site), or Long Prairie Creek (4 sites).

1.5 Effects of Proposed Actions

1.5.1 General Effects of Road Construction and Use

[2] Sixth field as referred to by the MidCoast Watershed Council in their watershed assessment (Garono and Brophy 2001). "At the time that this assessment was performed, there were several slightly different versions of 6th field watershed GIS coverages for Oregon. In agreement with the MidCoast Tech Team, we [Garono and Brophy] agreed to use the 6th field coverage that was supplied to us on the MCWC CD-ROM as our unit of comparison and prioritization." The MCWC 6th field designations are believed to be relatively equivalent to CLAMS' 7th field designations.

Construction of a road network can greatly accelerate erosion rates in a watershed (Haupt 1959, Swanson and Dyrness 1975, Swanston and Swanson 1976, Beschta 1978, Gardner 1979, Cederholm and Reid 1987). The percentage of fine sediments in spawning gravels increased above natural levels when more than 2.5% of a basin area was covered by roads (Cederholm *et al*. 1981). Unpaved road surfaces continually erode fine sediments, adding significant amounts of sediment to streams (Reid and Dunne 1984, Swanston 1991). Roads and related ditch networks are often connected to streams, providing a direct conduit for sediment. On steep hills, road construction or improper maintenance can greatly increase landslide rates relative to undisturbed forest (Swanson and Dryness 1975, Swanston and Swanson 1976, Furniss *et al*. 1991, ODF 1999), delivering large pulses of sediment to streams.

Increases in sediment supply beyond the transport capability of the stream can cause stream channel instability, aggradation (sometimes to the extent that perennial streams become intermittent; Cederholm and Reid 1987), widening, loss of pools, and a reduction in gravel quality (Sullivan *et al*. 1987, Furniss *et al*. 1991, Swanston 1991). For salmon, these changes can mean reduced spawning and rearing success when spawning areas are covered, eggs and fry suffocate or are trapped in redds, food abundance is reduced, and over-wintering habitat is reduced (Cederholm and Reid 1987, Hicks *et al*. 1991).

Roads built in riparian areas often eliminate part of the riparian vegetation (Furniss *et al*. 1991), reducing large wood recruitment and shade. Riparian roads also constrain the natural migration of the stream channel where channel migration zones are present. Roads can intercept, divert, and concentrate surface and subsurface water flows, thereby increasing the watershed's drainage network (Hauge *et al*. 1979, Furniss *et al*. 1991, Wemple *et al*. 1996). This can change peak and base stream flows, and increase landslide rates. Stream crossings can restrict channel geometry and prevent or interfere with migration of adult and juvenile anadromous fish (Furniss *et al*. 1991). Culverts also can be a source of sedimentation, especially if they fail or become plugged with debris (Furniss *et al*. 1991, Murphy 1995).

1.5.2 General Effects of Timber Harvest

Logging operations have the potential to adversely affect upland and riparian ecological functions and characteristics that shape aquatic habitat (Gregory *et al*. 1987, Chamberlin *et al*. 1991). These functions and characteristics include provision of shade and cover, nutrient processing, food web support, sediment routing and composition, stream channel form, bank stability, water quality, flow timing and volume, and linkages to the floodplain (Sullivan *et al*. 1987, Gregory *et al*. 1991, Spence *et al*. 1996).

Log yarding and subsequent prescribed burning activities can increase soil exposure, runoff, and surface erosion (Chamberlin *et al*. 1991). The magnitude of effects depends on the degree of disturbance, slope, soil types, burn conditions (e.g., moisture content of combustibles and the maximum burn temperature), the time required for revegetation, and whether runoff can be concentrated by roads or other features.

As stated above in *General Effects of Road Construction and Use* (section 1.5.1), increases in sediment supply beyond the transport capability of the stream can cause stream channel instability, aggradation (sometimes to the extent that perennial streams become intermittent; Cederholm and Reid 1987), widening, loss of pools, and a reduction in gravel quality (Sullivan *et al*. 1987, Swanston 1991). For salmon, these changes can mean reduced spawning and rearing success when spawning areas are covered, eggs and fry suffocate or are trapped in the redd, food abundance is reduced, and over-wintering habitat is reduced (Cederholm and Reid 1987, Hicks *et al*. 1991).

LWM is an important component of freshwater salmonid habitat. The size of effective woody material varies depending on channel width (Beechie *et al*. 2000) and complexity desired. Functional LWM regulates sediment and flow routing, influences stream channel complexity and stability, and provides hydraulic refugia and cover within stream systems (Bisson *et al*. 1987, Gregory *et al*. 1987, Hicks *et al*. 1991, Sedell and Beschta 1991, Bilby and Bisson 1998). LWM also plays a key role in retaining salmon carcasses (Cederholm and Peterson 1985), a major source of nitrogen and carbon in stream ecosystems (Bilby *et al*. 1996). Wood in streams has been reduced through a variety of human activities that include past timber harvest practices and associated activities, as well as the mandated cleanup activities that removed wood from streams throughout the region from the 1950s through the 1970s (FEMAT 1993, Botkin *et al*. 1995, Bilby and Bisson 1998).

Forest management activities within a distance equal to one site-potential tree height of streams (approximately 170 to 240 feet for mature conifer trees west of the Cascades, FEMAT 1993) have the potential to change the distribution, size, and abundance of large wood available for recruitment from streamside stands (Hicks *et al*. 1991, Ralph *et al*. 1994, Murphy 1995, Spence *et al*. 1996). Because wood recruitment potential declines rapidly moving away from the stream, in western Oregon a buffer of 100 feet includes about 80 to 98% of streamside large wood recruitment potential, depending on stand age and other factors (Murphy and Koski 1989, McDade *et al*. 1990, Van Sickle and Gregory 1990). A buffer of 180 feet assures nearly 100% protection of the wood recruitment potential (McDade *et al*. 1990).

Headwater streams play an important role in watershed function. LWM in headwater streams increases sediment retention by forming depositional areas and dissipating energy; retains non-woody organic matter, allowing it to be biologically processed prior to downstream export as dissolved and particulate nutrients; and delays surface water passage, allowing it to be cooled by mixing with ground water (Sullivan *et al*. 1987, Murphy 1995, Spence *et al*. 1996, Bilby and Bisson 1998). Additional wood can be recruited to fish-bearing streams from upslope and upstream areas through landslides and debris flows (McGarry 1994, Reeves *et al*. 1995). In some areas, wood transported in this manner may constitute up to 50% of the wood recruited to downstream reaches (McGarry 1994). McDade *et al*. (1990) could not account for 48% of the existing LWM pieces in a study of recruitment from streamside areas.

Stream shade (important for controlling water temperature) can be affected by logging within a distance equal to approximately three-quarters of a site potential tree height (FEMAT 1993,

Spence *et al*. 1996). For small streams, the riparian buffer width needed to provide 75 to 90% shade varies widely, from 30 to 145 feet (Beschta *et al*. 1987). The majority of litterfall (a source of nutrients to the stream) is provided by vegetation within a distance equal to one-half to three-quarters of a site potential tree height (FEMAT 1993). Bank stability can be affected by removing trees in the zone where roots can extend to the stream bank (Beschta 1991) (up to approximately 30 feet from the stream for mature conifer trees, or wider where there is a channel migration zone).

Log yarding, herbicide application, and subsequent prescribed burning or mechanical brush removal and scarification activities, can increase soil exposure, runoff, and surface erosion, particularly when soils are compacted (Sullivan *et al*. 1987, Chamberlin *et al*. 1991). Removal of riparian trees can reduce bank stability, thereby increasing sediment delivery (Sullivan *et al*. 1987, Gregory *et al*. 1991).

Clearcut logging on unstable landforms often increases landslide frequency (Swanston and Swanson 1976, Sidle *et al*. 1985, Swanston 1991, Robison *et al*. 1999). A likely reason for this increase is altered soil shear strength, which decreases as tree roots gradually decay over a period of 2 to10 years (Ziemer 1981, Sidle *et al*. 1985). Based on an investigation of three streams in the Oregon Coast Range, Reeves *et al*. (1995) concluded that under a natural disturbance regime, periodic inputs of coarse sediment (boulders, cobble and gravel) and large wood in landslides may help create productive salmonid habitat, as these materials can be depleted in stream channels over long periods of time. However, landslides originating from harvested hillslopes, and debris flows that travel along stream channels where trees have been removed by harvesting, will deliver primarily sediment rather than large wood to streams (Hicks *et al*. 1991, Reeves *et al*. 1995). The rate and composition of landslides (Reeves *et al*. 1995), channel gradient and tributary junction angle (Benda and Cundy 1990), and the presence of mature trees in runout zones that can reduce debris flow runout distance (Robison *et al*. 1999) are major factors determining effects of these events on fish habitat.

1.5.3 Specific Effects of the Proposed Timber Sale

This sale (Sam Creek #2, Sam Creek #3, and Twin Bridges Cutting Units) is in the Sam Creek sub-watershed, which is part of the lower Siletz River watershed. OC coho salmon use the Sam Creek mainstem and tributaries for spawning and rearing. Within the proposed harvest units, the CTSI believes coho salmon occur only in the unnamed stream bordering the eastern boundary of Sam Creek #3 Cutting Unit. Coho salmon are not known to use any other streams within the subject cutting units, though the likely affected area extends downstream to other reaches known to contain coho salmon.

Although road density can be a useful indicator of landscape-scale disturbance, specific information on road location, design, use and maintenance is helpful to determining effects of particular actions. The new road segments are located along ridge-tops. The road is limited to an approximate 25-foot wide corridor with a 12-foot running surface width. New roads have

been designed to avoid new stream crossings, which eliminates erosion problems resulting from culvert fills.

Yarding and broadcast burning increase soil compaction and exposure (Chamberlin *et al*. 1991, Spence *et al*. 1996). The CTSI has included mitigation measures to reduce sediment generation from these practices (e.g. requiring limits on yarding corridor widths and one-end suspension during yarding). However, soil compaction and exposure, as well as additional temporary soil disturbance from rehabilitation activities, likely will cause a short-term increase in sediment yield from the harvest unit.

The FWS biological opinion (FWS 1-7-01-F-1037 issued on October 17, 2001) limits harvest within the Sam Creek #2 and Sam Creek #3 Cutting Units to September 16 to March 30 to avoid the marbled murrelet (*Brachyramphus marmoratus*) breeding season (April 1 to September 15). CTSI has interpreted this restriction to include hauling, which will necessitate winter hauling. Adverse effects from log hauling are possible during rainy periods, as log truck traffic on wet, unpaved roads can greatly increase sediment yield (Reid and Dunne 1984). Given the number of stream crossings (3 gravel road crossings) and the length of valley-bottom, near-channel road, sediments from road use are likely to enter the waterways. The proposed haul route runs adjacent to or crosses Sam Creek, Long Prairie Creek, and Long Tom Creek, all of which are inhabited by OC coho salmon. Wet weather hauling restrictions administered by the CTSI and included within the sale contract should help to minimize such adverse effects.

Before developing a harvest prescription for the proposed harvest units the CTSI completed a slope stability assessment for CTSI lands. The assessment used ODF's technical report on 1996 landslides (ODF 1999), a photo-based landslide occurrence survey of CTSI and surrounding lands, and the SHALSTAB slope stability model (Montgomery and Dietrich 1994). Assessment results suggested the SHALSTAB model was a poor predictor of landslide risk on CTSI lands. The BA states, "CTSI lands are not in the most unstable category in the Coast Range." The area in which the subject harvest units occur (Eddyville quadrangle) was estimated by Dr. Marvin R. Pyles to experience 3.4 landslides per square mile, based only on landslides that reached streams on 0 to 9 year age-class clearcuts. For Coast Range sandstone "Red Zones," the ODF report estimated 21.2 landslides per square mile. Slopes adjacent to the one known coho-bearing stream are 50% to 60% (Sam Creek #3 Cutting Unit). CTSI has indicated that headwall areas will be located and protected by inclusion in a no-cut zone.

Even if CTSI lands are not the "most unstable" in the Coast Range, NMFS continues to have concerns about slope stability in this area, particularly for concave slopes greater than 70% and planar slopes greater than 80%. However, since no slopes greater than 70% are known to occur in the subject harvest units and headwall areas will be protected, NMFS is sufficiently satisfied that the subject action will not significantly increase the risk of slope failure.

As proposed, fish-bearing streams in this sale would receive no-cut buffers with a minimum width of 100 feet. Buffers the height of a site-potential tree (approximately 170 feet in the action area; FEMAT 1993) fully provide the riparian functions of bank stability, shade, litterfall, LWM

recruitment, and sediment filtration (FEMAT 1993, Murphy 1995, Spence *et al*. 1996). A reduction in LWM and sediment filtration functions likely will occur for the stream segment in Sam Creek #3 Cutting Unit with a buffer of less than 170 feet. Intermittent, non-fish bearing streams would have a minium 20-foot buffer. These buffers are likely to provide adequate bank stability, shade, litterfall, and LWM recruitment based on characteristics of the local drainage, distribution of the listed species, and characteristics of the proposed action.

The increased watershed disturbance from this sale has the potential to increase cumulative effects [as defined in the Council of Environmental Quality's regulations implementing the procedural provisions of the National Environmental Policy Act[3] (NEPA)]. A possible cumulative effect related to increased forest fragmentation from clearcut harvest is increased volume of peak flows and altered peak flow timing (Jones and Grant 1996). These effects often are most pronounced in the rain-on-snow zone (Christner and Harr 1982, Harr 1986). Thomas and Megahan (1998) re-analyzed Jones and Grants' (1996) data and found conclusive increases for peak flows only in small watersheds. Thomas and Megahan (1998) concluded that peak flow increases resulting from clearcut harvests were not detectable for flows with greater than 2-year return intervals (i.e. effects were detectable only for small storms). The ecological significance of peak flow increases from small storms is not known. In the BA, CTSI determined the proposed harvest is expected to increase flows for a period of several years. However, since this area is lower in elevation (<1,000 feet) than the typical rain-on-snow zone, NMFS does not expect significant hydrologic effects resulting from increased forest fragmentation due to this sale.

Existing road densities within the Sam Creek sub-watershed (CLAMS 6th field HUC 1710020407 02) are characterized as *at risk* to *not properly functioning*. While the proposed action will increase the existing road network within the sub-watershed by 1.6 miles, these new road segments are ridge-top roads with no stream crossings.

Cumulative effects in the form of short-term increases in sediment yield are likely to accrue in the action area due to the combined effects of road construction and use, harvest, yarding, and site-preparation activities (broadcast burning).

1.5.4 Cumulative Effects

For the purposes of the ESA, cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes. In addition, non-federal actions that require authorization under section 10 of the

[3] Cumulative effects are defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR § 1508.7).

ESA will be evaluated in section 7 consultations. Therefore, these actions are not considered cumulative to the proposed action.

CTSI indicated in the BA that they are "not aware of any future, new, non-federal activities within the action area... that would cause greater impacts to the proposed and listed species than presently occurs." CTSI used the following assumptions in reaching this conclusion: (1) Future private and state actions will continue at a similar or somewhat reduced intensity as compared to recent years; (2) management effects from non-federal activities, which have degraded or hindered recovery of anadromous fish habitat, will be reduced due to implementation of projects under the guidance of the Oregon Plan for Salmon and Watersheds, such as those implemented by Simpson Timber Company in the Sam Creek watershed; and (3) anadromous fish habitat conditions will continue to improve due to the actions undertaken by adjacent industrial forest land owners and CTSI regarding stream protection and habitat enhancement.

NMFS concurs with CTSI that no new non-federal activities within the action area are likely to cause greater effects to OC coho salmon than presently occurs.

1.6 Conclusion

The NMFS has determined that, based on the available scientific and commercial data, the Sam Creek Logging Unit timber sales of the CTSI are not likely to jeopardize the continued existence of OC coho salmon or result in the destruction or adverse modification of designated critical habitat. In arriving at this determination, NMFS considered the current status of the listed and proposed species, biological requirements for survival and recovery, environmental baseline conditions, the effects of the action, and the cumulative effects of actions anticipated in the action area. A short-term increase in sediment yield is likely from road construction, harvest, yarding and site preparation activities in the sales. However, mitigative measures proposed by the CTSI will sufficiently ensure that adverse effects are likely to be short-lived and local, and that long-term deterioration of the listed species' habitat will not occur. These measures include:

1. Locating new road segments along ridge-tops and designing roads so that stream crossings are not needed.
2. Stream buffers that would reduce risks of effects to bank stability, shade, litterfall, sediment filtration, and LWM recruitment functions based on characteristics of the local drainage and distribution of the listed species.
3. Retainment of any timber inadvertently felled in the designated stream buffers.
4. No timber harvest on headwall sites.
5. Equipment and yarding restrictions that will minimize soil compaction and erosion.
6. Wet weather hauling restrictions to minimize sediment generation.

Also, pursuant to the Secretarial Order, NMFS must give deference to tribal resource management plans when considering activities that affect natural resources under NMFS' purview. This must be considered when NMFS conducts its analyses and draws its conclusions regarding tribal natural resource management activities.

1.7 Conservation Recommendations

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. NMFS believes the following conservation recommendations are consistent with these obligations, and therefore should be implemented by the BIA:

1. In order to minimize effects to riparian functions, harvest prescriptions extending from the outer edge of a 100-foot buffer to a distance of one tree site potential (170 to 240 feet for Coast Range forests) of perennial, fish-bearing streams should include retention of no fewer than 20 dominant or co-dominant conifer trees (if available) per acre.

2. In order to better understand baseline conditions in managed watersheds, the CTSI should continue their temperature monitoring program.

3. In order to plan activities to avoid adverse effects to listed species, the CTSI should begin surveys to clarify OC coho salmon spawning locations and times. This should be done on a trial basis first, in cooperation with NMFS, to develop methods that will avoid unauthorized "take" of this listed species.

4. If not already done, the CTSI should survey their existing road system to identify potential fish-passage, flow alteration, erosion, and potential mass failure problems, and to identify possible opportunities for restoration work (e.g., road decommissioning).

5. The CTSI should develop an effectiveness monitoring program to determine the effectiveness of its riparian and upland strategies for maintaining and restoring fish habitat.

In order for NMFS to be kept informed of actions minimizing or avoiding adverse effects, or those that benefit listed species or their habitat, NMFS requests notification of the implementation of any conservation recommendations.

1.8 Reinitiation of Consultation

This concludes formal consultation on these actions in accordance with 50 CFR 402.14(b)(1). Reinitiation of consultation is required: (1) If the amount or extent of incidental take is exceeded; (2) the action is modified in a way that causes an effect on the listed species that was not previously considered in the biological assessment and this Opinion; (3) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (4) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

2. INCIDENTAL TAKE STATEMENT

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered species and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Harm is further defined by NMFS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, and sheltering (50 CFR 222.102). Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered to be a prohibited taking under the ESA provided that such taking is in compliance with the amount or extent, and the term and conditions, of this incidental take statement.

The measures described below are non-discretionary; they must be implemented by the action agency so that they become binding conditions of any grant or permit issued, as appropriate, in order for the exemption in section 7(o)(2) to apply. The BIA has a continuing duty to regulate the activity covered in this incidental take statement. If the BIA (1) fails to require adherence to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

2.1 Amount or Extent of Take

The NMFS anticipates that the proposed action covered by this Opinion is reasonably certain to result in incidental take of listed species. For the purposes of this Opinion, incidental take is defined as take of OC coho salmon (fertilized eggs, fry, juveniles, or adults) that results from activities described for the Sam Creek Logging Unit Timber Sale of the CTSI. This incidental take is expected to be in the form of harm to OC coho salmon from short-term increases in sedimentation related to new road construction, harvest, yarding, hauling, and site preparation.

The amount or extent of incidental take resulting from the proposed action is difficult to quantify due to the difficulty in finding individuals that have been killed or otherwise taken by the project. Therefore, even though NMFS expects some low level of incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species. In instances such as these, NMFS designates the expected level of take as "unquantifiable." Based

on the information in the BA, NMFS anticipates that an unquantifiable amount of incidental take of OC coho salmon could occur as a result of the actions covered by this Opinion. In instances such as this, NMFS designates the expected level of take in terms of the extent of take allowed. Therefore, NMFS limits the allowable incidental take to take resulting from the proposed timber sale in those aquatic areas from the harvest units downstream to river mile 0 of Sam Creek. This includes the reaches of Long Tom Creek and Long Prairie Creek downstream of the haul route overcrossings (approximately 88 feet and 1,162 feet, respectively). Incidental take occurring beyond these areas is not authorized by this consultation (e.g., the effects likely to result from slope failure and debris flows).

2.2 Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measure(s) are necessary and appropriate to minimize take of OC coho salmon:

1. Minimize the likelihood of incidental take resulting from significant changes in road design (e.g. unanticipated stream crossings, or realignments) by reporting any significant changes to NMFS.

2. Minimize the likelihood of incidental take resulting from increased stream sediment load by implementing additional measures to reduce sediment yield from disturbed areas to streams.

3. To ensure that harvest contracts and protective measures for fish habitat are completed as described in the biological assessment and in this Opinion, and that the protective measures are effective, develop a monitoring plan for the proposed activities.

2.3 Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the BIA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure # 1, the BIA shall ensure NMFS is informed of any significant changes to the planned road design, such as unanticipated stream crossings or road realignments, prior to their construction.

2. To implement reasonable and prudent measure # 2, the BIA shall ensure that:

    a. Timber hauling is suspended when road conditions would generate excessive sediment, such as during intense or prolonged rainfall, or when the road surface begins to deteriorate as evidenced by the increasing presence of surface mud, rutting, ponding, etc.

b. Sediment traps are installed where drainage from roads used for the Sam Creek Logging Unit harvest discharge into streams.

c. All sediment traps shall be inspected periodically during logging activities (including hauling) to ensure that they are working adequately.
   i. During the rainy season, inspections will be performed at least on a weekly basis.
   ii. If inspection shows that the erosion controls are not functioning as designed (e.g., flow is circumventing erosion control structure), mobilize work crews immediately to make repairs, install replacements, or install additional controls as necessary.

3. To implement reasonable and prudent measure # 3 above, the BIA shall ensure that:

a. A monitoring plan is developed that includes, at a minimum all of the following:
   i. Post-sale measurement of riparian buffer widths at representative locations in each harvest unit.
   ii. An inspection for excessive damage to soil, vegetation, streambanks, or stream channels from felling, yarding corridors, soil compaction, roads, scarring, or prescribed burning.
   iii. A qualitative assessment to describe the effectiveness of mitigation measures for felling, yarding, hauling, and site preparation in avoiding and minimizing habitat damage that could result in incidental take.

b. The monitoring plan is developed and submitted to NMFS within 60 days of the date of the final Opinion.

c. Monitoring results for all activities, other than prescribed burning, are submitted for each harvest unit to NMFS within 60 days of completion of felling, yarding, and hauling. Monitoring results for prescribed burning activities shall be submitted within 60 days of completion of those activities.

d. Monitoring documentation will be submitted to:

National Marine Fisheries Service
Oregon Habitat Branch
Attn: OSB2001-0285
525 NE Oregon Street, Suite 500
Portland, OR 97232

3. MAGNUSON-STEVENS ACT

3.1 Background

On November 6, 2001, the NMFS received a letter from the BIA requesting essential fish habitat (EFH) consultation for the subject action pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and its implementing regulations (50 CFR 600). The objective of the EFH consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

3.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the Magnuson-Stevens Act requires Federal agencies to consult with NMFS on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (Magnuson-Stevens Act §3). For the purpose of interpreting the definition of essential fish habitat: Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50 CFR 600.110).

Section 305(b) of the Magnuson-Stevens Act (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.
- NMFS shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH.
- Federal agencies shall within 30 days after receiving conservation recommendations from NMFS provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the Federal agency shall explain its reasons for not following the recommendations.

The Magnuson-Stevens Act requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of their locations.

3.3 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: coho, chinook (*O. tshawytscha*), and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (i.e., natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.4 Proposed Actions

The proposed action is detailed above in section 1.2 of the ESA consultation. The action area includes: (1) Streams in the Sam Creek drainage, adjacent the timber harvest units downstream to the Siletz River, (2) Long Tom Creek from the haul road crossing downstream approximately 88
feet to Sam Creek, and (3) Long Prairie Creek from the haul road crossing downstream approximately 1,162 feet to Sam Creek. This area has been designated as EFH for coho salmon and chinook salmon.

3.5 Effects of Proposed Action

As described in detail in section 1.5 of the ESA consultation, the proposed action may adversely affect EFH for coho and chinook salmon, due to an increase in sediment yield resulting from road construction and use, clearcut harvest, ground-based yarding, and site preparation.

3.6 Conclusion

Based on the analysis described in section 1.5 of the ESA consultation, the proposed action may adversely affect designated EFH for coho salmon and chinook salmon.

3.7 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. NMFS finds the conservation measures proposed for the project in the BA and summarized above in Section 1.2, all conservation recommendations outlined above in section 1.7, and all of the *Reasonable and Prudent Measures* and the *Terms and Conditions* contained in sections 2.2 and 2.3 are applicable. Therefore, NMFS incorporates each of those measures here as EFH conservation recommendations.

3.8 Statutory Response Requirement

Please note that the Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the Federal agency to provide a written response to NMFS after receiving EFH conservation recommendations within 30 days of its receipt of this letter. This response must include a description of measures proposed by the agency to avoid, minimize, mitigate or offset the adverse impacts of the activity on EFH. If the response is inconsistent with a conservation recommendation from NMFS, the agency must explain its reasons for not following the recommendation.

3.9 Consultation Renewal

The BIA must reinitiate EFH consultation with NMFS if either action is substantially revised or new information becomes available that *affects* the basis for NMFS' EFH conservation recommendations (50 CFR 600.920).

4. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on the best scientific and commercial data available. This section identifies the data used in developing this Opinion.

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